United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Emerging Threats and Capabilities, Committee on Armed Services, U.S. Senate

For Release on Delivery
Expected at
2:30 p.m.
Monday
March 6, 2000

WEAPONS OF MASS DESTRUCTION

U.S. Efforts to Reduce Threats From the Former Soviet Union

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GAO/T-NSIAD/RCED-00-119

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss our reviews of U.S. programs to reduce the threats that the former Soviet Union's weapons of mass destruction[1] pose to U.S. national security. Since 1991, Congress has authorized the Departments of Defense (DOD), Energy (DOE), and State to help Russia and other newly independent states[2] control and eliminate weapons of mass destruction and to reduce the risks of their proliferation. My statement is based on the 20 reports we have issued over the past 8 years that address various aspects of these programs (see app. I).

Today, I will present our overall observations regarding these programs' cost and impact. As you requested, I will also suggest some questions that you may wish to consider as this Subcommittee reviews current and future budget requests for these programs.

RESULTS IN BRIEF

To date, Congress has authorized more than $4.7 billion for U.S. programs aimed at helping Russia and other newly independent states reduce the threats posed by their weapons of mass destruction. The cost of implementing many of these programs is escalating dramatically. For example, the anticipated U.S. cost of designing, building, and filling a Russian facility for storing nuclear weapons components has increased by an estimated 300 percent since 1996. Such increases are largely due to Russia's apparent inability to pay its share for these programs and to expanding program requirements.

Although costs are uncertain and rising, reducing the threats posed by Russia's weapons of mass destruction is clearly in the U.S. national interest. However,

[1] Weapons of mass destruction include biological, chemical, and nuclear weapons. Other related threats include missiles and other systems for delivering such weapons, weapons-usable nuclear materials, and the scientific-industrial infrastructure for developing and producing such weapons, systems, and materials.

conclusively demonstrating that most of these programs are having a positive impact has proven to be very difficult. On the positive side, we can be relatively confident that DOD played a tangible role in helping at least two former Soviet states meet their arms control treaty obligations involving the destruction of missile launchers. Most of these programs, however, are inherently a cost risk in that we may never be able to prove that they have achieved their intended purpose. For example, we are far less confident that Russia's new DOD-built nuclear storage facility will actually support Russia's dismantlement of nuclear warheads. This is because Russia's frequent reluctance to provide the United States needed access to sensitive nuclear materials and facilities is denying DOD the ability to confirm that the facility will contain only components from dismantled weapons. Similarly, we may never know the extent to which our aid to unemployed former Soviet weapons scientists is actually reducing any desire they may have to sell their skills to countries of concern in the production of nuclear and other weapons of mass destruction.

With the continuing economic crisis in Russia, a major question that applies to all U.S. threat reduction assistance is whether Russia will ever pay its agreed-upon share of program costs or be able to fund operations and maintenance of the facilities and systems that we have or plan to put in place. Given the current situation, the United States may have to fully fund not only its implementation but also the operations and maintenance of the threat reduction projects. Another question is whether the United States can overcome Russia's national security concerns about providing us access to very sensitive sites. If we can reach agreement on this issue, the United States may be able to better plan, prioritize, and monitor implementation of the programs; be better able to meet threat reduction objectives; and help mitigate against unforeseen cost increases.

[2] Weapons of mass destruction were also located in Ukraine, Kazahkstan, and Belarus.

BACKGROUND

When it collapsed in 1991, the former Soviet Union had, by some estimates, about

- 30,000 nuclear weapons,
- 650 metric tons of weapons-usable nuclear materials,
- 40,000 metric tons of chemical weapons, and
- 2,500 systems (e.g., missiles and bombers) for delivering weapons of mass destruction.

It also had numerous facilities employing hundreds of thousands of scientists, engineers, and technicians trained to design and build nuclear, chemical, and biological weapons, as well as systems for delivering such weapons.

The United States has launched several programs to address such threats.

- Congress, at the urging of Senators Nunn and Lugar, authorized DOD to establish the Cooperative Threat Reduction Program in 1992. The program remains the largest and most diverse U.S. program addressing former Soviet weapons of mass destruction threats. The program has focused primarily on (1) destroying vehicles for delivering nuclear weapons, their launchers (such as silos and submarines), and their related facilities and (2) securing former Soviet nuclear weapons and their components.

- In 1995, DOE launched the Materials Protection, Control, and Accountability Program to help secure former Soviet weapons-usable nuclear materials. It later created the Initiatives for Proliferation Prevention Program to engage unemployed weapons scientists in various peaceful commercial projects. The Department also has two other initiatives to reduce former Soviet stockpiles of weapons useable material. These programs are designed to convert highly enriched uranium and weapons useable plutonium to fuels that can be used in civilian nuclear power plants.

- The Department of State helped establish and, with DOD, fund the International Science and Technology Center in Moscow to help fund peaceful activities carried out by underpaid weapons scientists. The Center's sponsors include the United States, the European Union, and Japan.

The Departments of Defense, Energy, and State have been provided with more than $4.7 billion to implement these programs. They have directed most of these funds toward (1) the destruction of vehicles that can deliver weapons and (2) the safe and secure storage of weapons-usable nuclear materials, components from disassembled nuclear weapons, and nuclear weapons. These three agencies are now requesting more than $880 million for fiscal year 2001.

U.S. PROGRAM COSTS ARE INCREASING

The costs of several U.S. projects have or are likely to increase dramatically. These increases are largely due to (1) Russia's apparent inability to pay for its agreed-upon share of project costs and (2) unexpected changes and increases in program requirements. For example:

- In 1996 DOD informed congressional committees that it would pay no more than half (i.e., about $275 million) of the total estimated cost of designing and building Russia's facility for storing for nuclear weapons components. As we reported in 1999,[3] the total U.S. cost for this facility and its more recently identified requirements could now approach $1.3 billion. Estimated U.S. costs for the facility itself grew from $275 million to more than $640 million after Russia stated in 1998 that it could not fund its share of the project. Russia also revealed that it could not afford to prepare and package the large quantities of plutonium needed to fill the facility once it is completed. To help ensure that the facility can be filled when completed, DOD has launched an effort to begin packaging this material, which could ultimately cost $650 million. The total

[3] *Weapons of Mass Destruction: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned* (GAO/NSIAD-99-76, Apr. 1999).

potential cost to the United States of designing, building, and filling the facility—almost $1.3 billion--does not include annual operating costs that could exceed more than $10 million. The United States does not know whether Russia can pay these costs.

- DOE's Materials Protection, Control, and Accountability Program has made progress in reducing the threat of theft of weapons of mass destruction and related materials in the newly independent states by helping these countries safeguard their materials. However, DOE has spent $481 million to protect only about 7 percent of all of the 650 metric tons of material believed to be at sites in the former Soviet Union. DOE's major difficulty is that 90 percent of this material is in Russia's nuclear weapons complex, which DOE does not have access to because of Russia's concerns about divulging state secrets. As a result, DOE has had difficulty planning, prioritizing, and monitoring protective systems or even identifying where the nuclear material is stored in the complex. DOE is working with the Russians in an attempt to gain access to these sites. In addition, Russia's economic crisis has raised concerns about the country's ability to fund operations and maintenance of the systems. Because of this situation, program costs are likely to increase significantly. At your request, we will be issuing a report addressing the effectiveness of the upgrades and Russia's ability to operate and maintain the new systems.

- DOD now estimates that a pilot facility to destroy 14 percent of Russia's chemical weapons over an 11-year period would cost the United States almost $890 million--an increase of about $150 million from the estimate we included in our last report on the facility.[4] The new estimate assumes that Russia would be able to shoulder another $756 million in infrastructure and operations costs, despite its continued lack of significant financial support. Russia would also have to marshal the funds needed to build similar facilities at four other locations. DOD's plans to begin constructing the pilot facility were delayed by

[4] *Weapons of Mass Destruction* (GAO/NSIAD-99-76, Apr. 1999).

Russia's failures to provide needed technical information and infrastructure support in a timely manner. Before DOD could begin construction, Congress denied the project any future funds.

- Russia may be abandoning its plans to cease production of weapons-grade plutonium by converting nuclear reactors at two sites. It may instead decide to build new fossil fuel plants. If so, DOD may lose its $22-million investment in the reactor conversion project.

MOST PROGRAM IMPACTS ARE DIFFICULT TO DETERMINE

Our work indicates that it is difficult to determine the extent to which many U.S. projects can demonstrate that they are reducing threats posed by former Soviet weapons of mass destruction. In general, projects' impacts are more easily demonstrated when there are clear, mutually agreed-upon national objectives; tangible threat elements; and good working relationships between U.S and Russian officials. The impact of projects without these characteristics is generally harder to clearly demonstrate. Thus, the United States must recognize that projects carry varying degrees of risk as to whether they are accomplishing intended results. For example:

- DOD efforts to eliminate or reduce nuclear weapons delivery vehicles (e.g., missiles, launchers, and bombers) in the former Soviet Union appear to have had a demonstrable impact, particularly in Ukraine and Kazakhstan. These efforts have played a crucial role in eliminating the threat that these states could each launch large numbers of nuclear-armed missiles aimed at the United States. Less demonstrably, they appear to have helped Russia reduce its delivery systems. The circumstances surrounding this achievement made the impact of DOD's assistance relatively easy to demonstrate.

- Each nation subscribed to mutually agreed-upon, verifiable objectives in the form of the arms control agreements and protocols established under the Strategic Arms Reduction Treaty.
- The projects involved activities such as destroying missiles, missile silos and submarines which can be easily seen by U.S. personnel.
- The programs involved generally good working relationships with key ministries and officials.
- In the case of Ukraine and Kazakhstan, the recipients of our aid had limited capabilities of their own to destroy the threatening systems.

- In contrast, our impact on Russia's dismantlement of nuclear warheads for placement in the U.S.-built nuclear components storage facility is far less apparent. At the beginning of the Cooperative Threat Reduction Program, Russian officials indicated that they were uninterested in direct U.S. assistance in dismantling retired warheads. Instead, Russia and the United States eventually agreed that DOD would help Russia construct a facility for the safe storage of nuclear material it extracted from dismantled warheads. However, as we reported last year,[5] we may never know whether the soon-to-be operational facility is actually supporting Russia's warhead dismantlement effort. Despite previous pledges, Russia, in the absence of a mutually agreed-upon and verifiable agreement on warhead elimination, has yet to provide DOD with the access it will need to ensure that the storage facility contains only nuclear materials taken from warheads. Without such access, the demonstrable impact of the project depends on the extent to which the facility improves Russia's current ability to securely store materials that could be used to manufacture weapons.

- Although the United States has spent $481 million to upgrade security systems at Russian laboratories with weapons-grade nuclear material, because of access problems, we may not know if some of these systems are being used as

[5] *Weapons of Mass Destruction* (GAO/NSIAD-99-76, Apr. 1999).

intended and properly maintained. In addition, with only 7 percent of the material under the upgraded security systems, a large amount of material is still stored under weak security protection systems.

- By their nature, it is impossible to determine the extent to which State and Energy Department programs have affected Russian scientists' inclination, if any to sell their weapons skills to other countries of concern. In any event, as we found last year, DOE did not know how many scientists were receiving its funds or whether it was targeting key scientists and institutes that have the most important skills for weapons development. Moreover, DOE had not adequately reviewed projects to ensure that no U.S. defense-related information was relayed to others. Finally, supplementing the salaries of these scientists is no guarantee that they will not in the future sell their services to individuals or countries that pose national security risks to the United States. We will be reporting to you in greater detail this year on U.S. efforts to engage former Soviet biological weapons scientists.

- Cooperative Threat Reduction Program officials have acknowledged that they cannot measure the extent of the impact of U.S. improvements to the safety of Russian storage and transportation of materials and weapons.

ISSUES AND QUESTIONS TO CONSIDER FOR FUTURE AUTHORIZATION REVIEWS

The United States is financing some threat reduction projects in Russia where costs and requirements are increasing dramatically and where, access to sites of national security concern are off limits to U.S. program officials. The following issues and questions may be helpful to the Committee as it considers authorizations for various threat reduction programs in 2001 and in future years.

Issue. Can Russia afford to pay its agreed-upon share of threat reduction projects, and do we know whether it can pay operations and maintenance expenses?

Questions

- Collectively, how many projects are we going to fund that may carry high recurring operations and maintenance costs?
- Should the United States consider construction and operations and maintenance costs for a project before deciding to move forward on it?
- If the United States has to pay operating and support costs for the facilities and systems it puts in place, how long will we pay these costs?
- Are there projects whose operations and maintenance costs and/or construction costs are too high compared to the threat reduction we get, or are the costs so high that we will place a heavy support burden on Russia, which is already financially strained?
- Is there a point where we should simply stop funding a project because it is becoming too costly for the expected threat reduction?

Issue. Threat reduction requirements are increasing or are unknown. For example, more buildings with nuclear material that require security upgrades have been identified and we do not know if there are more buildings.

Questions

- How do U.S. officials get a better fix on the total number of buildings that have weapons-grade nuclear material?
- Does the United States want to continue funding security upgrades at buildings with weapons usable material but where we have no access?
- How can U.S. officials find out whether there are other unknown Russian warhead dismantlement projects that cannot be funded before Russia can begin filling the nuclear weapons components storage facility?

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Mr. Chairman, this concludes my prepared testimony. I would be happy to respond to any questions you or other members may have.

CONTACT AND ACKNOWLEDGMENTS

For future questions regarding this testimony, please contact Harold J. Johnson at (202) 512-4128. Individuals making key contributions to this testimony included F. James Shafer, Gene Aloise, Charles Bolton, and Pierre Toureille.

APPENDIX I

GAO REPORTS ON FORMER SOVIET WEAPONS OF MASS DESTRUCTION AND RELATED SUBJECTS

Nuclear Nonproliferation: Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States (RCED/NSIAD-00-82, Mar. 6, 2000).

Nuclear Nonproliferation: Status of Transparency Measures for U.S. Purchase of Russian Highly Enriched Uranium (RCED-99-194, Sept. 22, 1999).

Weapons of Mass Destruction: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned (NSIAD-99-76, Apr. 13, 1999)

Nuclear Nonproliferation: Concerns With DOE's Efforts to Reduce the Risks Posed by Russia's Unemployed Weapons Scientists (RCED-99-54, Feb. 19, 1999).

Nuclear Nonproliferation and Safety: Uncertainties About the Implementation of U.S.-Russian Plutonium Disposition Efforts (RCED-98-46, Jan. 14, 1998).

Weapons of Mass Destruction: Review of DOD's June 1997 Report on Assistance Provided (NSIAD-97-218, Sept. 5, 1997).

Cooperative Threat Reduction: Status of Defense Conversion Efforts in the Former Soviet Union (NSIAD-97-101, Apr. 11, 1997).

Weapons of Mass Destruction: DOD Reporting on Cooperative Threat Reduction Assistance Has Improved (NSIAD-97-84, Feb. 27, 1997).

Nuclear Safety: Status of U.S. Assistance to Improve the Safety of Soviet-Designed Reactors (RCED-97-5, Oct. 29, 1996).

Weapons of Mass Destruction: Status of the Cooperative Threat Reduction Program (NSIAD-96-222, Sept. 27, 1996).

Nuclear Nonproliferation: U.S. Efforts to Help Newly Independent States Improve Their Nuclear Material Controls (T-NSIAD/RCED-96-118, Mar. 13, 1996).

Nuclear Nonproliferation: Status of U.S. Efforts to Improve Nuclear Materials Controls in Newly Independent States (NSIAD/RCED-96-89, Mar. 8, 1996).

Nuclear Safety: Concerns With Nuclear Facilities and Other Sources of Radiation in the Former Soviet Union (RCED-96-4, Nov. 7, 1995).

Weapons of Mass Destruction: DOD Reporting on Cooperative Threat Reduction Assistance Can Be Improved (NSIAD-95-191, Sept. 29, 1995).

Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union--An Update (NSIAD-95-165, June 17, 1995).

Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union (NSIAD-95-7, Oct. 6, 1994).

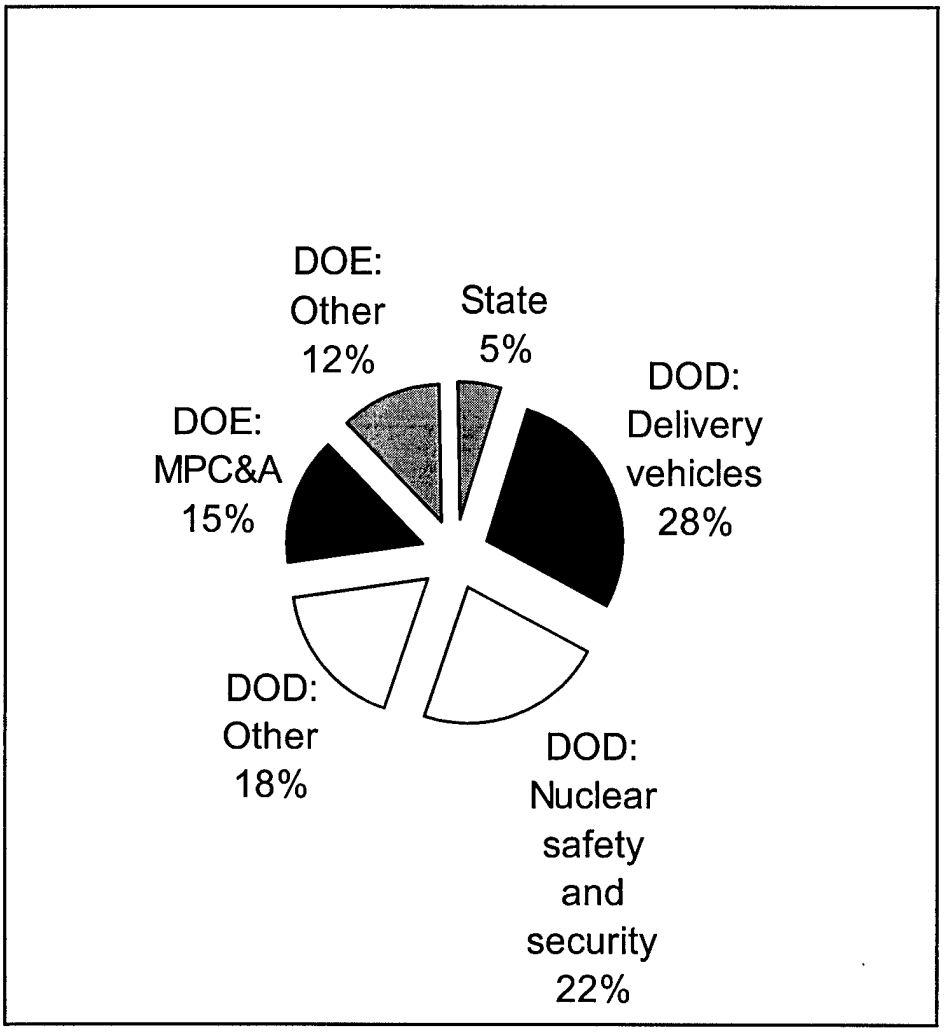
Nuclear Safety: International Assistance Efforts to Make Soviet-Designed Reactors Safer (RCED-94-234, Sept. 29, 1994).

Soviet Nuclear Weapons: U.S. Efforts to Help Former Soviet Republics Secure and Destroy Weapons (NSIAD-T-93-5, Mar. 9, 1993).

Soviet Nuclear Weapons: Priorities and Costs Associated with U.S. Dismantlement Assistance (NSIAD-93-154, Mar. 8, 1993).

Russian Nuclear Weapons: U.S. Implementation of the Soviet Nuclear Threat Reduction Act of 1991 (NSIAD-T-92-47, July 27, 1992).

ALLOCATION OF FISCAL YEAR 1992-2000 FUNDS ($4.7 BILLION)



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